

### Ch. 3 Intro. Lab – Measurement and Density

1. Construct a data table to measure the mass, volume, and density of:
  - aluminum cube
  - aluminum rhombus
  - wooden block

	Mass (g)	Length (cm)	Width (cm)	Height (cm)	Volume (cm <sup>3</sup> )	Density (g/cm <sup>3</sup> )
Aluminum cube						
Aluminum rhombus						
Wooden block						

2. Make your measurements using a metric ruler and balance. Express volume in cm<sup>3</sup>, mass in g, and density in g/cm<sup>3</sup>.
3. Use the water displacement method to calculate the volume of the aluminum cube and rhombus. Record your values in a new data table.

	Initial volume (ml)	Final volume (ml)	Volume (ml)
Al cube			
Al rhombus			

4. Devise a way to measure the density of distilled water, and of a sample of ethyl alcohol you obtain from your teacher. Record your density values in g/ml in a newly constructed data table.

	Mass (g)	Volume (ml)	Density (g/ml)
Ethyl alcohol			
Distilled water			

5. Use your mass measurements from step 1, and your volume measurements from step 3, to calculate new density values for the aluminum cube and rhombus. Arrange in a new data table.

	Mass from step 1 (g)	Volume from step 3 (ml)	Density (g/ml)
Al cube			
Al rhombus			

6. Read and take notes on Ch. 3.1. Use the Rules for Significant Figures to round your volume and density calculations in the lab.

Actual density of Al = 2.70 g/ml

Actual density of H<sub>2</sub>O = 1.0 g/ml

Actual density of ethyl alcohol = 0.79 g/ml